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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,373	12/27/2006	Stanley Shigezo Swallow	78104114 - KE/GM/N19082	3270
25005	7590	03/04/2009	EXAMINER	
Intellectual Property Dept. Dewitt Ross & Stevens SC 2 East Mifflin Street Suite 600 Madison, WI 53703-2865			CHOI, PETER Y	
			ART UNIT	PAPER NUMBER
			1794	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,373	Applicant(s) SWALLOW ET AL.	
	Examiner PETER Y. CHOI	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-18, 20, 25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-18 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/25/06 and 12/26/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicants' election of Group I, claims 1-10, 12-18 and 20, in the reply filed on January 12, 2009, is acknowledged. Because Applicants did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 25 and 26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-10, 16-18 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 7-10, claim 7 recites that the first and/or second conductor "is subject to a warp and/or weft float," claim 8 recites that the insulating warp fibers "are subject to a warp float" and claim 9 recites that the insulating weft fibers "are subject to a weft float." It is unclear what the scope of "is subject to" necessarily entails. For example, it is unclear whether, in claim 7, the first and/or second electrical conductors warp and/or weft float over or under more than

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one yarn or whether the first and/or second electrical conductors are merely capable of such a construction in order to form a desired resulting fabric.

Regarding claim 10, the claim recites that the fabric includes a warp and a neighboring electrical conductor and insulating fiber in the warp, which employs during the weaving thereof separate shafts for an electrical conductor in the warp and the insulating fibers in the warp that are neighboring to the electrical conductor. It is unclear exactly what structure is claimed. For example, it is unclear whether the limitation reciting that the fabric employs during the weaving thereof separate shafts for an electrical conductor in the warp and the insulating fibers in the warp that are neighboring to the electrical conductor, is a product-by-process limitation or is intended to recite a structural limitation.

Regarding claims 16-18 and 20, claim 16 recites that the contiguous segments have a length and/or number and/or arrangement and/or linear resistivity chosen so as to constitute one or more resultant conductive paths that conform to a required geometry and/or required electrical characteristic and/or a required value of electrical property. It is unclear what is intended by contiguous segments having a “number.” Additionally, it is unclear what is intended to be within the scope of a “ required geometry and/or required electrical characteristic and/or a required value of electrical property.” In what manner or in what sense are the geometry, electrical characteristic and/or value of electrical property “required?” Applicants’ specification does not appear to recite any objective and/or quantitative characteristics associated with “required” amounts.

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Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10, 12-14, 16-18, and 20, are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US Pub. No. 2003/0119391 to Swallow.

Regarding claims 1-10, 12-14, 16-18, and 20, Swallow teaches a fabric having a woven construction, including in its woven construction a first elongated electrical conductor and a second elongated electrical conductor, the first elongated electrical conductor being crossed by the second elongated electrical conductor at a crossover point, the conductors being permanently biased apart at the crossover point (see entire document including paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

Regarding claim 2, the fabric has a plurality of spaced first conductors and/or a plurality of spaced second conductors, thereby forming a plurality of the crossover points (paragraphs 0001-0020, Figures 3 and 9-12).

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Regarding claims 3 and 4, the conductors comprise electrically conductive filaments or fibers (paragraphs 0001-0020, 0035-0043).

Regarding claim 4, the fabric includes a warp and a weft and wherein the warp includes at least one first electrical conductor and the weft includes at least one second electrical conductor (paragraphs 0001-0020, Figures 3 and 9-12).

Regarding claims 5-10, 12-14, 16-18, and 20, the fabric includes insulating fibers or filaments which bias the first and second electrical conductors at a crossover point (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

Regarding claims 6-10, 12-14, 16-18, and 20, the woven construction includes yarn and warp and/or weft floats over or under more than one yarn to effect the biasing apart of first and second electrical conductors at a crossover point (paragraphs 0001-0020, Figures 3 and 9-12).

Regarding claims 7 and 10, the first and/or second electrical conductor is subject to a warp and/or weft float over or under more than one yarn (paragraphs 0001-0020, Figures 3 and 9-12).

Regarding claim 8, the fabric includes a warp and a weft and insulating warp fibers neighboring an electrical conductor in the warp, wherein the neighboring insulating warp fibers to an electrical conductor in the warp are subject to a warp float over or under more than one weft yarn (paragraphs 0001-0020, Figures 3 and 9-12).

Regarding claim 9, the fabric includes a warp and a weft and insulating weft fibers neighboring an electrical conductor in the weft, wherein the neighboring insulating weft fibers to an electrical conductor in the weft are subject to a weft float over or under more than one warp yarn (paragraphs 0001-0020, Figures 3 and 9-12).

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Regarding claim 10, the fabric includes a warp and a neighboring electrical conductor and insulating fiber in the warp (paragraphs 0001-0020, Figures 3 and 9-12). Swallow does not appear to specifically teach that the fabric employs during the weaving thereof, separate shafts for an electrical conductor in the warp and the insulating fibers in the warp that are neighboring to the electrical conductor. However, the limitations appear to be product-by-process limitations. Absent a showing to the contrary, it is Examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. The burden has been shifted to Applicants to show unobvious difference between the claimed product and the prior art product. The applied prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if Applicants intend to rely on Examples in the specification or in a submitted declaration to show unobviousness, Applicants should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the applied prior art.

Regarding claims 12-14, 16-18 and 20, the fabric includes at least one instance of a crossover point at which the first and second electrical conductors are permanently biased apart and at least one instance of a crossover point at which the corresponding first and second electrical conductors are permanently physically connected together (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

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Regarding claim 13, the one or more crossover points at which the corresponding first and second electrical conductors are permanently physically connected together are effected by means of a plain weave structure local to that crossover point (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

Regarding claims 14, 16-18 and 20, the fabric includes one or more permanently connected crossover points and one or more permanently biased apart crossover points in order to bring into being at least one conductive path within the fabric that is composed of two or more contiguous segments of two or more electrical conductors (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

Regarding claims 16-18 and 20, the contiguous segments of electrical conductors have a length and/or number and/or arrangement and/or linear resistivity chosen so as to constitute one or more resultant conductive paths that conform to a required geometry and/or required electrical characteristics and/or a required value of electrical property (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

Regarding claim 17, the electrical property is selected from the group consisting of electrical resistance, capacitance, inductance, impedance and reactance (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

Regarding claims 18 and 20, the electrical characteristic is a heterogeneous distribution of resistance along the resultant conductive path and/or across the fabric (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12).

Regarding claim 20, Swallow appears to teach that the fabric provides an electrical heating element that exhibits a heterogeneous distribution of heated power dissipation along the

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resultant conductive path and/or across the fabric (paragraphs 0001-0020, 0035-0043, 0060-0073, 0080, claims 1-16, Figures 1-12). Additionally, although the prior art does not disclose the claimed properties, the claimed properties are deemed to be inherent to the structure in the prior art since Swallow teaches an invention with a substantially similar structure and chemical composition as the claimed invention. Products of identical structure and composition cannot have mutually exclusive properties. The burden is on the Applicants to prove otherwise.

In the event it is shown that Swallow does not disclose the claimed invention with sufficient specificity, the invention is obvious because Swallow discloses the claimed constituents and discloses that they may be used in combination.

Claim Rejections - 35 USC § 103

6. Claim 15, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swallow, as applied to claims 1-10, 12-14, 16-18, and 20 above, and further in view of USPN 6,333,736 to Sandbach.

Regarding claim 15, the prior art does not appear to teach that the two or more contiguous segments are of two or more electrical conductors that exhibit differing linear resistivities. Since the prior art does not teach the specific electrical conductors suitable for the invention of the prior art, it would have been necessary and therefore obvious to look to the prior art for conventional electrical conductors. Sandbach teaches a substantially similar electrically conductive woven fabric as Swallow, comprising electrically conductive elements, relatively low resistance conductive elements and insulating elements, wherein the sizes of the conductive elements may be adjusted in comparison to the insulating elements (Sandbach, column 1 line 5 to

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column 2 line 7, column 2 lines 52-67, column 3 lines 1-30, column 6 lines 45-67, column 7 line 1 to column 8 line 13, column 9 line 57 to column 9 line 13). Sandbach teaches that the resistivity may be controlled by selecting an appropriate fiber type or adjusting the thickness of the fiber. Sandbach teaches that the inclusion of conductive and low resistance conductive elements makes it possible for a voltage indicative of position to be determined. It would have been obvious to one of ordinary skill in the electrically conductive textile art at the time the invention was made to form the electrically conductive textile of the prior art, wherein the conductive elements are of variable size and resistivity, as taught by the prior art and Sandbach, motivated by the desire of forming a conventional electrically conductive textile with conductive elements known in the art to be predictably suitable for use in electrically conductive textiles, and one of ordinary skill in the art would recognize that varying the resistivities in the textile would similarly predictably vary the electrical properties of the textile and within the textile, based on the desired application.

Regarding claims 18 and 20, the prior art appears to teach that the electrical characteristic is a heterogeneous distribution of resistance along the resultant conductive path and/or across the fabric and that the fabric provides an electrical heating element that exhibits a heterogeneous distribution of heated power dissipation along the resultant conductive path and/or across the fabric. Additionally, the prior art combination teaches an electrically conductive woven fabric comprising electrically conductive elements, relatively low resistance conductive elements and insulating elements, wherein the conductors exhibit differing linear resistivities. Although the prior art does not specifically disclose the claimed properties, the claimed properties are deemed to be inherent to the structure in the prior art since Swallow teaches an invention with a

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substantially similar structure and chemical composition as the claimed invention. Products of identical structure and composition cannot have mutually exclusive properties. The burden is on the Applicants to prove otherwise.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER Y. CHOI whose telephone number is (571)272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Peter Y Choi /PYC/
Examiner, Art Unit 1794

/Andrew T Piziali/
Primary Examiner, Art Unit 1794